

A NEW SPECIES OF THE GENUS SAXETOPHILUS (ORTHOPTERA, ARCYPTERIDAE) FROM GANSU, CHINA

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Abstract In this paper, a new species of the genus *Saxetophilus*, *S. gansuensis* sp. nov., is described from Gansu Province, China. A key to species of the genus *Saxetophilus* is provided. The type specimens are deposited in the Institute of Zoology, Shaanxi Normal University.

Key words Orthoptera, Acridoidea, Arcypteridae, *Saxetophilus*, new species, China.

The genus *Saxetophilus* was erected by Umnov in 1930, with *S. petulans* Umnov as the type species. The genus is distinguished from other related genera by the following characters: body small; head large, shorter than pronotum; vertex wide, fastigial foveolae narrow and short, length about 2.0–2.5 times of its width; eyes large, its longitudinal diameter about 1.5 times in male or 1 time in female as its subocular furrow; median ocellus equal to lateral ocelli in size; posterior margin of pronotum with obtuse angulate lacuna in the middle; lateral carinae of pronotum arch-curved in prozona, metazona wide, widest between lateral carinae about 2 times greater than length of median carina in metazona; elytra in both sexes shortened, leaf-shaped, laterally placed and widely separated dorsally; tympanum organ developed, tergum of male terminal abdomere with cauda.

Two species are known in the genus, namely *S. petulans* Umnov, 1930, and *S. mistshenkoi* Naumovitsh, 1988 (Umnov, 1930; Naumovitsh, 1988). In China, one species, *S. petulans* Umnov, was reported (Zheng, 1985, 1993; Zheng & Xia, 1998). In the present paper, one new species of the genus *Saxetophilus* was described. A key to species of the genus *Saxetophilus* is provided. The type specimens are deposited in the Institute of Zoology, Shaanxi Normal University.

Key to species of the genus *Saxetophilus*

- 1 (2) Widest between lateral carinae of pronotum 1.75 times as length of median carina in metazona; posterior margin of lateral lobes of pronotum straight *S. petulans* Umnov
- 2 (1) Widest between lateral carinae of pronotum 2 times as length of median carina in metazona; posterior margin of lateral lobes of pronotum arcuately concaved

- 3 (4) Length of fastigial foveola 3 times in male or 2.5–3.0 times in female as long as its width. Interspace of mesosternal lobes equal to or greater than the widest of lateral lobes *S. gansuensis* sp. nov.
- 4 (3) Length of fastigial foveola 2.00–2.25 times in male or 2 times in female as long as its width. Interspace of mesosternal lobes narrower than the widest of lateral lobes in male or greater than the widest of lateral lobes in female... *S. mistshenkoi* Naumovitsh

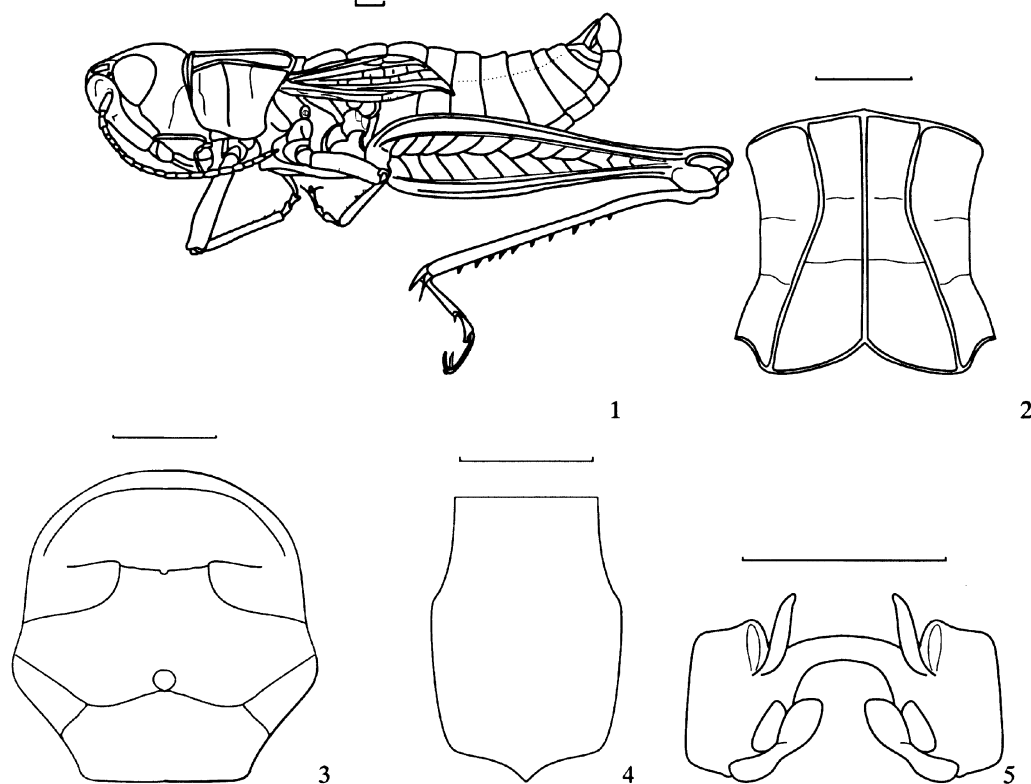
Saxetophilus gansuensis sp. nov. (Figs. 1–5)

Male. Body small. Head large, shorter than pronotum. Vertex triangular, its apex sharp, distance between eyes 2.0–2.3 times greater than width of frontal ridge between antennae. Fastigial foveolae quadrangular, length of fastigial foveolae 3 times as its width. Frons oblique in profile, frontal ridge wide and flat, concaved at median ocellus. Lateral margins of frontal ridge slightly concaved at median ocellus gradually widened toward base of clypeus. Eyes large, longitudinal diameter about 1.3 times as its horizontal diameter and 1.3–1.7 times as subocular furrow. Median ocellus equal to lateral ocelli in size. Antennae filiform, surpassing posterior margin of pronotum, 23 segments, length of middle segments about 1.25 times as its width. Pronotum tectiform, its anterior margin straight, posterior margin with a small obtuse angulate lacuna in middle. Median carina of pronotum obvious, lateral carinae arcuately curved in prozona, widest between lateral carinae 1.8–2.0 times as long as the narrowest and 2 times as long as length of median carinae in metazona; anterior transverse and median transverse sulcus not obvious in dorsal view; posterior transverse sulcus distinct, not crossed median carina. Posterior margin of lateral lobes of pronotum arcuately concaved. Interspace of mesosternal lobes equal to or

greater than the widest of lateral lobes, the narrowest of interspace of mesosternal lobes 1.5 times as its length; metasternum lobes separated. Elytra short, leaf shaped, laterally placed and separated widely in dorsal view, apex sharp, their length 3.2-3.3 times as their width, reaching 4-5 abdominal terga; hind wings shorter than elytra, only reaching first abdominal tergum. Hind femora with 4-6 stridulatory pegs on the inner side; apices of lower kneelobe rounded. Hind tibia with 10-12 spines on outer side and 9 spines on inner side, without outer apical spine. Tympanum organ developed, oval. Terminal tergum of abdomen

splitted widely longitudinally at middle, with small cauda. Epiproct triangular, basal part with longitudinal groove in the middle, lateral margins of base part with arcuate carinae. Cerci long cylindraceous, apex slightly extending to apex of epiproct. Subgenital plate short and pyramidal, apex blunt. Epiphallus as in Fig. 5.

Body dark brown or greenish brown, antennae blackish brown. Coloration of hind femora are the same as body's. Hind tibia yellowish brown. Basal part of hind femora with black oblique stripes on inner side.



Figs 1-5. *Saxdophilus gansuensis* sp. nov. 1. Body ♂, lateral view. 2. Pronotum ♂, dorsal view. 3. Mesosternum and metasternum ♂. 4. Subgenital plate ♀, ventral view. 5. Epiphallus, dorsal view. Scale bars= 1 mm.

Female. Body larger and more robust than male. Frontal ridge flat, slightly concaved at median ocellus. Eyes smaller, longitudinal diameter about 1.3 times as its horizontal diameter and equal to subocular furrow. Fastigial foveolae quadrangular, length of fastigial foveolae 2.5-3.0 times as its width. Antennae shorter, only reaching posterior margin of pronotum, length of middle segments about 1.1 times as its width. Lateral carinae of pronotum arcuately curved in prozona, widest between lateral carinae 1.8-2.0 times as long as narrowest and 2.5-3.0 times as long as length of median carina in metazona. Elytra leaf shaped, apex reaching the middle of first abdominal tergum, length

about 2 times of width. Metathorax and terga with lateral keels. Epiproct triangular, basal part with longitudinal groove in middle, middle part with transversal ridge. Cerci long and pyramidal, shorter than epiproct. Ovipositor short and robust, outer margins of dorsal valves smooth, its tip hook-like. Posterior margin of subgenital plate angularly projected in middle.

Body dark brown or greenish brown. Lateral carinae of pronotum yellowish white with black longitudinal lines. Coloration of hind femora same as body. Hind tibia yellowish brown. Other characters same as male.

Length of body: ♂11.3-12.2 mm, ♀ 14.1-19.5 mm; length of pronotum: ♂2.4-2.5 mm, ♀ 2.5-2.8 mm; length of elytron: ♂3.5-4.1 mm, ♀ 1.6-1.8 mm; length of hind femur: ♂7.6-8.0 mm, ♀ 8.3-10.1 mm.

Holotype ♂, Luqu County (34° 36' 10" N,

102° 30' 20" E; 2 650 m), Gansu Province; 30 July 2004, coll. by WANG Yan-Feng. Paratypes: 11 ♂♂, 8♀♀, other data as holotype.

The new species is allied to *S. petulans* Umnov and *S. mistshenkoi* Naumovitsh but can be separated by the characters listed in Table 1.

Table 1. Comparison between *S. gansuensis* sp. nov. and its allied species.

| Characters | <i>S. petulans</i> Umnov | <i>S. gansuensis</i> sp. nov. | <i>S. mistshenkoi</i> |
|--|---|---|---|
| Length of foveola | 2.5 times in male or 2 times in female as its width | 3 times in male or 2.5-3.0 times in female as its width | 2.00-2.25 times in male or 2 times in female as its width |
| Widest between lateral carinae of pronotum | 1.75 times as length of median carina in metazona | 2 times as length of median carina in metazona | 2 times as length of median carina in metazona |
| Lateral lobes of pronotum | Posterior margin straight | Posterior margin arcuately concaved | Posterior margin arcuately concaved |
| Elytra | ♂ reaching the fourth abdominal tergum | ♂ reaching 4-5 abdominal tergum | ♂ reaching the middle of third abdominal tergum |
| | ♀ reaching the second abdominal tergum | ♀ reaching the middle of first abdominal tergum | ♀ reaching the posterior margin of first abdominal tergum or middle of second abdominal tergum |
| Length of elytra | 4 times in male or 3 times in female as its width | 3.2-3.3 times in male or 2 times in female as its width | 2.5-3.0 times in male or 2.0-2.5 times in female as its width |
| Interspace of mesosternal lobes | Narrower than the widest of lateral lobes | Equal to or greater than the widest of lateral lobes | Narrower than the widest of lateral lobes in male or greater than the widest of lateral lobes in female |

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甘肃石栖蝗属一新种 (直翅目, 网翅蝗科)

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摘要 记述采自甘肃的网翅蝗科石栖蝗属 *Saxetophilus* 1 新种, 即甘肃石栖蝗 *S. gansuensis* sp. nov., 新种近似于石栖蝗 *S. petulans* Umnov, 1930 和米氏石栖蝗 *S. mistshenkoi*

Naumovitsh, 1988, 与它们的区别见表 1. 并附有石栖蝗属种的检索表。模式标本保存于陕西师范大学动物研究所标本室。

表 1 甘肃石栖蝗与近缘种之间的比较

| 特征 | 石栖蝗 <i>S. petulans</i> Umnov, 1930 | 甘肃石栖蝗, 新种 <i>S. gansuensis</i> sp. nov. | 米氏石栖蝗, <i>S. mistshenkoi</i> Naumovitsh, 1988 |
|----------|---------------------------------------|--|--|
| 头侧窝 | ♂长为宽的 2.5 倍 ♀ 长为宽的 2 倍 | ♂长为宽的 3 倍 ♀ 长为宽的 2.5~ 3.0 倍 | ♂长为宽的 2.00~ 2.25 倍 ♀ 长为宽的 2 倍 |
| 前胸背板 | 沟后区宽为长的 1.75 倍 | 沟后区宽为长的 2 倍 | 沟后区宽为长的 2 倍 |
| 前胸背板侧片 | 后缘直 | 后缘弧形凹陷 | 后缘弧形凹陷 |
| 前翅 | ♂到达第 4 腹节 ♀ 到达的 2 腹节 | ♂到达第 4~ 5 腹节 ♀ 到达的 1 腹节的中部 | ♂到达第 3 腹节中部 ♀ 到达的 1 腹节的后缘或者第 2 节中部 |
| 前翅长 | ♂为宽的 4 倍 ♀ 为宽的 3 倍 | ♂为宽的 3.2~ 3.3 倍 ♀ 为宽的 2 倍 | ♂为宽的 2.5~ 3.0 倍 ♀ 为宽的 2.0~ 2.5 倍 |
| 中胸腹板中隔的宽 | 小于侧叶最狭处 | 大于或等于侧叶最狭处 | ♂小于侧叶最狭处 ♀ 大于侧叶最狭处 |

关键词 直翅目, 蝗总科, 网翅蝗科, 石栖蝗属, 新种, 中国.

中图分类号 Q969.265.1